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7201T – Fall 2012

WIKI – 6 Assignment

Association for Psychological Science (2012, February 23). Girls’ verbal skills make them better at arithmetic, study finds. *ScienceDaily.* Retrieved November 5, 2012 from http://www.sciencedaily.com/releases/2012/02/120223133012.htm

This article in the ScienceDaily cites findings by Zhou, X and colleagues that examines how women’s language abilities might be a benefit to doing arithmetic and higher level mathematics. The study was conducted in China among children ages 8 to 11, which showed that girls outperformed boys in arithmetic tasks. The article suggests that perhaps boys can benefit from verbal strategies and girls from special skills that are believed to be boys strong suit.

Beilock, S.L., Gunderson, E.A., Ramirez, G., & Levine, C.S. (2010). Female teachers’ math anxiety affects girls’ math achievement. *Processings of the National Academy of Sciences of the United States of America.* 107(5), 1860-1863. Retrieved from Academic Research Complete Database.

In this research, Beilock and colleagues examine how the math anxiety of female teachers transfers to female students in early elementary grades. The basis for their research is rooted in the prior research that shows that elementary education teachers, most of whom are women, experience math anxiety and avoid advanced mathematic courses. The authors of this piece assessed 17 first and second grade teachers as well as 52 boys and 65 girls on their math anxiety levels and attitudes toward gender in mathematics. The research showed that students started with little to no relation between teachers math anxiety and students’ but by the end of the year the girls achievements were negatively affected by the teacher’s own attitude toward math. Interestingly, the achievement of boys was mostly unaffected by female teacher’s math anxiety, displaying that children are more likely to acquire the behavior of same-gender adults.

Rivers, C & Barnett, R.C. (2006, October 06). We can learn together. *Los Angeles Times.* Retrieved November 5, 2012, from http://articles.latimes.com/2006/oct/02/opinion/oe-rivers2/2

In this article, Rivers and Barnett attempt to counter the claim of benefit to single-gender classroom that have been appearing in the media. They review and cites lack of research or facts on the claims of genetic or cognitive learning differences between boys and girls that have been proposed in support to segregated learning. The authors review various claims that make headlines, such as, boys and girls hear different or that they use their brain differently. The article suggests that the claims made to support the single-gender classrooms or the reasons behind segregated education are often unsupported by published academic research, unscientific and unreasonable.

Steffens, M.C., Jelenec, P., & Noack, P. (2010). On the leaky math pipeline: Comparing implicit math-gender stereotypes and math withdrawal in female and male children and adolescents. *Journal of Educational Psychology.* 102(4), 947-963. Retrieved from PsycArticles Database.

This research article attempts to trace how early in life do children begin to exhibit implicit math-gender stereotypes. The researches conduct two studies with fourth grades, seven grades and ninth grades to determine and which age math-gender stereotypes and self-gender identification begins to form. Both studies revealed that even at age 9, girls exhibited math-gender stereotypes, associating math with boys and themselves with the language arts (in the case of the study, German). The authors were not able to determine at what age those stereotypes begin to develop but firmly established that at the age of 9 (4th grade) they are already present. The authors also do not delve into the causes for these stereotypes but suggest a variety of social reasons (family/teacher expectations, lack of role-models, interests, etc).

Tsui, M. (2007). Gender and mathematics achievement in China and the United States. *Gender Issues.* 24(3), 1-11. Retrieved from Academic Search Complete Database.

This research focuses on the differences in gender and mathematics relations in China and United States. The author concludes that while there is a growing gender gap in the mathematics achievement in the United States, China shows no statistically significant difference between boys and girls achievements in middle and high school grades. The article then goes further to examine possible social reasons behind this difference. Different academic curriculum is one of the reasons behind it but the author looks closely on societal factors such as cultural, family and teacher expectations. He points out that due to one-child-family policy of urban china, the expectations of parents for their child success is as high for girls as it is for boys. They also spend more on girls’ educations to provide them with more advantages in the work force. The author compares it with United States where societal pressure and math stereotypes are prevalent and create stereotype threats in female students, possibly affecting their math performance abilities.